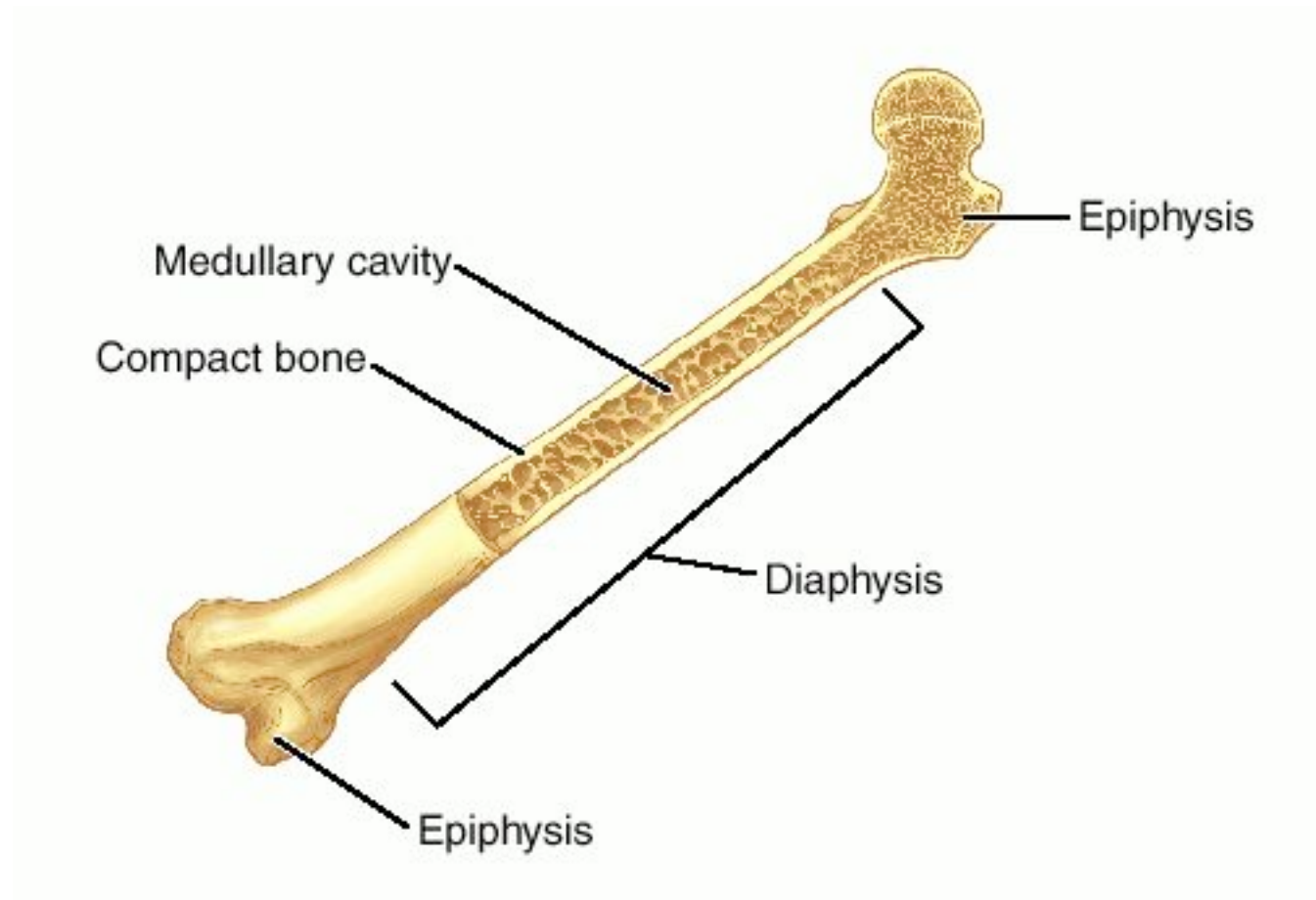


Unit 3-3 Notes: Bone Formation, Growth, and Repair

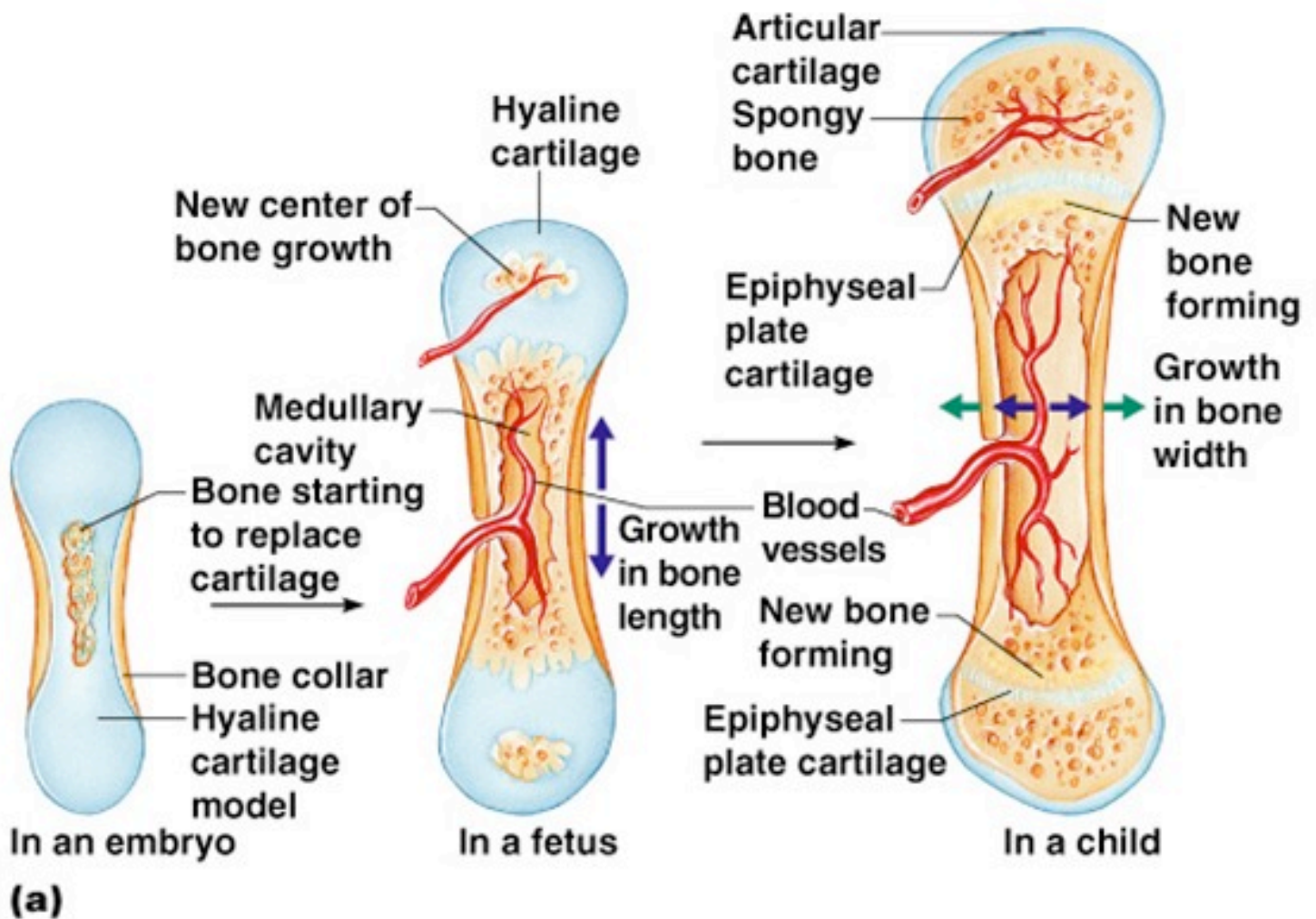


Ossification:

In embryos, skeleton is primarily _____

By birth, much of this cartilage is replaced by _____

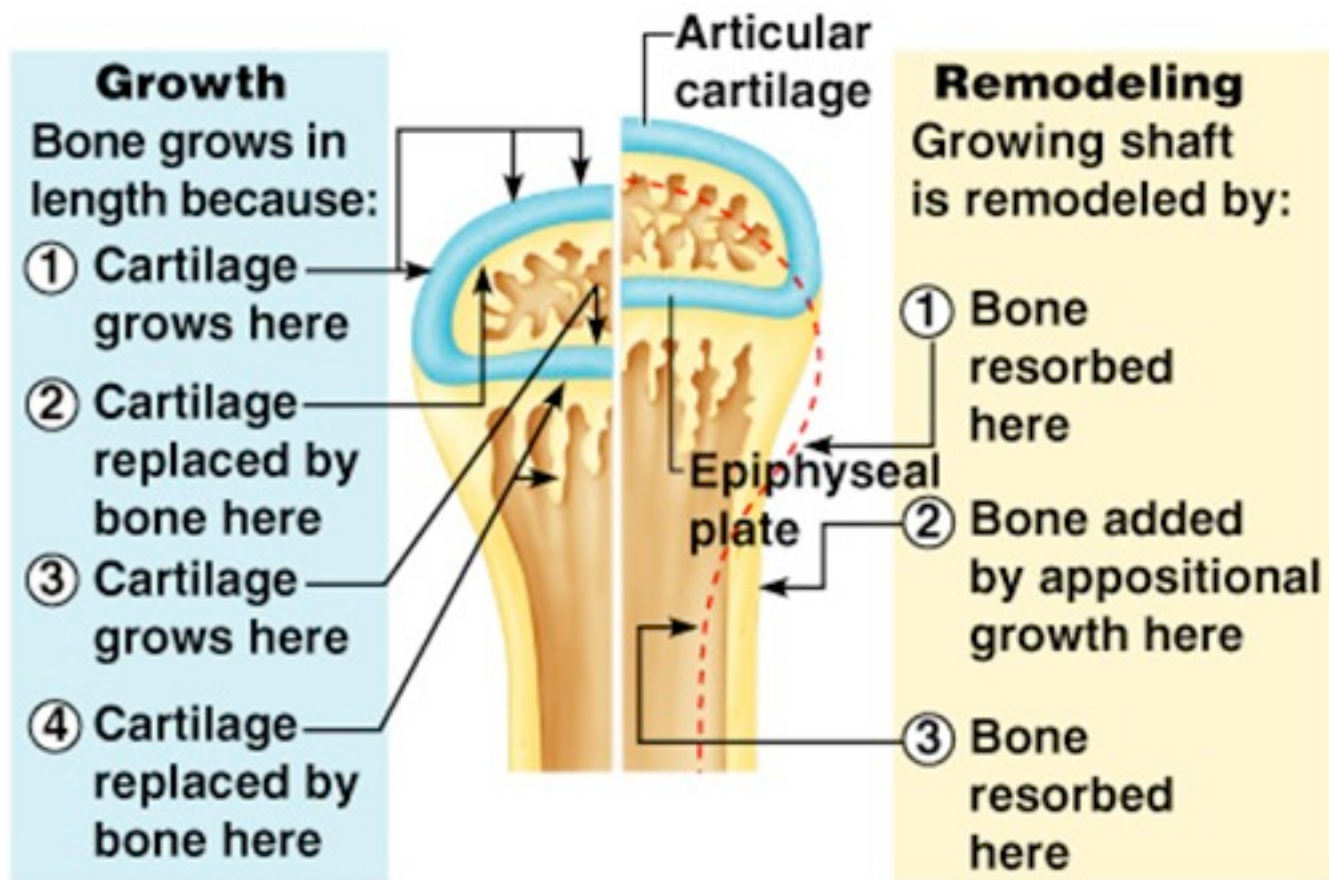
Some cartilage remains:



Growth:

_____ allow for growth of long bone during childhood.

New cartilage is continuously formed and old cartilage becomes ossified (cartilage is broken down and replaced by bone)



(b)

Bone Fractures:





Types:

1) closed (simple) –

***treated by doctor realigning bone with hands

2) open (compound) –

***treated by surgery (sometimes pins and wires are needed)

Fracture type	Illustration	Description	Comment
Comminuted		Bone breaks into many fragments.	Particularly common in the aged, whose bones are more brittle.
Compression		Bone is crushed.	Common in porous bones (i.e., osteoporotic bones).
Depressed		Broken bone portion is pressed inward.	Typical of skull fracture.
Impacted		Broken bone ends are forced into each other.	Commonly occurs when one attempts to break a fall with outstretched arms.
Spiral		Ragged break occurs when excessive twisting forces are applied to a bone.	Common sports fracture.
Greenstick		Bone breaks incompletely, much in the way a green twig breaks.	Common in children, whose bones are more flexible than those of adults.

Bone Repair Process:

- 1) Hematoma (_____) is formed
- 2) Break is splinted by fibrocartilage to form a callus
- 3) Fibrocartilage callus is replaced by a _____ callus
- 4) Bony callus is remodeled to form a permanent patch

***fixed bone is not as strong as it was before

